

been eliminated and separate claims have been drafted for each range. Also, the term "having" has been replaced by the term "comprising."

In conjunction with the submission of new claims which are believed to comply with the requirements of 35 USC 112, a new declaration is being submitted herewith and an abstract. The abstract is taken from published PCT application WO 99/17927.

There remains for consideration, the rejections of the original claims under 35 USC 103. Since the scope of new claims 22-47 retain the scope of original claims 1-21, the rejections advanced by the examiner have been carefully considered. The rejections are as follows: (1) claims 1-5, 10, 11 and 14-19 under 35 USC 103(a) over Terakawa et al in view of Datta et al; and (2) claims 6-9, 12 and 13 under 35 USC 103(a) over Terakawa et al in view of Datta et al and further in view of Tapp.

These references and the proposed combination have been carefully studied, and it is applicants considered opinion that originally filed claims 1-19 and therefore new claims 22-47 are patentable over the references and the combinations proposed. Accordingly, these rejections are respectfully traversed.

The present invention as originally claimed and as still claimed defines a three layer composite material with each layer having a particular arrangement. The examiner has not found a three layer composite material and suggests that a three layer composite material can be constructed by one of ordinary skill in the art from the teaching in tow references neither of which teach more than two layers. The Federal Circuit has stated on more than one occasion that the references must *suggest* the combination. The combination of Terakawa et al and Datta et al produces a composite material of either two or four layers not three. There is no suggestion in

either reference that suggests a three layer design, See, *In re Gordon*, 221 USPQ 1125 (Fed. Cir. 1984). See also *In re Gorman*, 18 USPQ2d 1885 (Fed. Cir 1991), one cannot use applicant's disclosure as a "template" for applying a rejection. The teaching basis must be found in the reference or references.

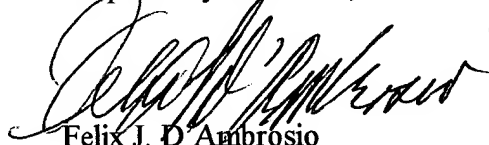
Applicants do not see such a suggestion in any of the references. Accordingly, it is applicants position that claims 22-47 are patentable over the art of record.

In view of the foregoing, reconsideration and re-examination are respectfully requested and claims 22-47 found allowable.

Please charge the added claim fee of \$54 to Deposit Acc. # 10-1213.

To expedite prosecution, he examiner is urged to contact the undersigned at the telephone number indicated to discuss personally any further issues that may remain.

Respectfully submitted,



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[Specification]

Technical Field

The invention relates to a composite material for forming a liquid-retaining layer in a hygiene article or a medical product, having a first layer of substantially continuous staple fibers with a diameter of 15 to 35 μm , and having a second film layer.

Background of the Invention--

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PAGE 3 OF SPECIFICATION

--Summary of the Invention

It is therefore an object of the invention to create an improved composite material that particularly from the standpoint of use as a backing sheet material in disposable hygiene articles precludes the known disadvantages.

This object is attained by a composite material formed in three layers. The first layer comprises substantially continuous staple fibers with a diameter of 15 to 35 μm , a second film layer, and a third layer of microfibers with a diameter of less than 10 μm . The third layer is provided on the full surface of the side of the first layer remote from the second film layer. The third layer three-dimensionally penetrates the surface structure of the first layer in such a way that the mean spacing D' between the third layer and the second film layer is less than the thickness D_{sp} of the first layer, sandwiched in between [as defined by the characteristics of claim 1].--

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SPECIFICATION

--The object is furthermore to disclose a method for producing a composite material of the invention. This further object is attained by a method [having the characteristics of claim 20.]

comprising the steps of:

forming a staple fiber layer with an open surface structure;

applying microfibers to the staple fiber layer;

solidifying the microfiber/staple fiber layer formed by the action of pressure and a temperature that is above the softening point of the microfibers and/or of the staple fibers;

applying a predetermined film on the staple fiber side to the thus prefabricated microfiber/staple fiber composite; and

solidifying the microfiber/staple fiber composite with the foil by the action of pressure and a temperature that is above the softening point of at least the film.

Brief Description of the Drawings

Further characteristics, details and advantages of the invention will become apparent from the accompanying claims and the drawing and the ensuing description of a preferred embodiment of the composite material of the invention and of a method for its production. [Shown in the drawing are:]

Fig. 1, is a sectional view perpendicular to the plane of a composite material of the invention;

Fig. 2, is a section as in Fig. 1, on a larger scale;

Fig. 3, is an apparatus for producing a composite of a staple fiber layer and a microfiber layer;

Fig. 4, is an apparatus for applying a film layer to the composite made in accordance with Fig. 3; and

Fig. 5, is a second embodiment of an apparatus for applying a film layer to the composite made in accordance with Fig. 3.

Description of the Preferred Embodiment--

--Abstract

The invention relates to a composite used as a liquid-retaining layer in hygiene articles or medical products. Said composite comprises a first layer, made of a substantially continuous staple fiber with a diameter of 15-35 μm , and a second film layer for preventing snagging in the fibrous surface of the staple fiber layer. The composite comprises a third layer of microfibers with a diameter of under 10 μm , covering the whole surface of the staple fiber layer on the side opposite the film layer. A three-layer composite is thus formed. This third layer of microfibers penetrates the surface structure of the staple fiber layer in such a way that the average distance D' between the microfiber layer and the sheet layer is less than the thickness D_{sp} of the staple fiber layer which is sandwiched in between.--